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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/790,966

Filing Date: March 02, 2004

Appellant(s): GAUR ET AL.

Michael J. Corrigan
Registration No. 42,440
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 20, 2009 appealing from the Office action mailed September 25, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

A substantially correct copy of appealed claims 1 – 26 appears on pages 9 – 16 of the Appendix to the appellant's brief. The minor errors are as follows: In claims 12 and 22 there is a typo. The claims state "discarding portions of data associated with particular information flow based on the identified memory". However, the examined claims stated "...based on the identified priority".

(8) Evidence Relied Upon

2002/0188871	Noehring et al.	12-2002
2003/0069973	Ganesan et al.	4-2003
2004/0030513	Kocaman et al.	2-2004
5,235,641	Nozawa et al.	8-1993
4,627,018	Trost et al.	12-1986

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. **Claims 1, 2, 4 – 7, 9, 12 – 16, 20 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noehring (2002/0188871), and further in view of Ganesan (2003/0069973).**
2. Referring to claim 1, Noehring teaches:
 - a. A memory controller configured to transfer data received from the network to the memory (page 2, paragraph 37).
 - b. A network interface coupled to the memory controller comprising:
 - i. A first data moving unit configured to exchange secure data with a first portion of the network and a second DMU configured to exchange non-secure data with a portion of the network (page 3, paragraph 43, Figure 5). Since the inbound and outbound packets are IP packets, and clear text packets respectively and they may be split into a dedicated mode with dedicated channels for each one.

- c. Logic configured to identify an information flow associated with the portion of data, to identify a priority of that portion of data (page 5, paragraph 58).
 - d. Logic configured to retrieve a portion of the data from the memory using the memory controller (page 2, paragraph 37).
 - e. Logic configured to perform security operations on the retrieved portion of the data (page 2, paragraphs 37-38).
 - f. Logic configured queue data for transferring based on the priority information (page 5, paragraph 58).
 - g. Logic configured to store the operated on portion of the data in memory using the memory controller wherein the memory controlled is further configured to transfer the operated on portion of the data from memory to the network (page 2-3, paragraph 38).
3. Noehring does not explicitly disclose the priority of the information flow being independent of an order in which the data was stored in memory or any contentions of memory, and discarding portions of data associated with a particular flow and priority. However, Ganesan discloses receiving a packet and determining which class it belongs to, and possibly dropping the packet based on the class it belongs to (page 11, paragraph 128). At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Noehring and Ganesan before him or her, to modify the memory access of Noehring to include the classification and prioritization of Ganesan. The motivation for doing so is to provide bandwidth allocation on a per-system rather than per-interface basis (page 10, paragraph 127).

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4. Referring to claim 2, Noehring teaches that the first and second DMU directly communicate with the first and second portions of the network (Figure 5, 528 and 562).

5. Referring to claim 4, Noehring teaches:

h. Logic configured to obscure the portion of the data when the retrieved portion is non-secure data (Figure 5, 518).

i. Logic configured to decipher the portion of the data when the retrieved portion is secure data (Figure 5, 546).

j. Logic configured to determine an integrity of the portion of data (pages 2-3, paragraph 38).

6. Referring to claim 5, Noehring teaches performing quality of service operations on the data in coordination with the performing of security operations (pages 2-3, paragraph 38).

7. Referring to claim 6, Noehring teaches logic configured to identify an information flow associated with the portion of data, to determine the priority of that portion of data, and to schedule transferring the operated on portion of the data from memory based on the priority information (page 5, paragraph 58).

8. Referring to claim 7, Noehring teaches:

k. Logic configured to decipher the portion of the data prior to identifying the information flow when the retrieved portion is secure data (figure 5, 546, 550, page 3, paragraph 38).

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- I. Logic configured to obscure the portion of the data after identifying the information flow when the retrieved portion is non-secure data (Figure 5, 518, 520).
9. Referring to claims 9 and 21, Noehring teaches referencing the memory banks in a sequence that minimizes memory access time (page 3, paragraph 42).
10. Referring to claims 12 and 22, Noehring teaches:
 - m. Transferring data received from the network to the memory (page 2, paragraph 37).
 - n. Identifying an information flow associated with the portion of data, and to identify a priority of that portion of data (page 5, paragraph 58).
 - o. Retrieving a portion of the data from the memory using the memory controller (page 2, paragraph 37) wherein the portions of the data having higher priority information flow are retrieved before portions having lower priority (page 5, paragraph 58).
 - p. Performing security operations on the retrieved portion of the data (page 2, paragraphs 37-38).
 - q. Queuing data for transfer based on the priority information (page 5, paragraph 58).
 - r. Storing the operated on portion of the data in memory using the memory controller wherein the memory controlled is further configured to transfer the operated on portion of the data from memory to the network (page 2-3, paragraph 38).

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11. Noehring does not explicitly disclose the priority of the information flow being independent of an order in which the data was stored in memory or any contentions of memory, and discarding portions of data associated with a particular flow and priority. However, Ganesan discloses receiving a packet and determining which class it belongs to, and possibly dropping the packet based on the class it belongs to (page 11, paragraph 128). At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Noehring and Ganesan before him or her, to modify the memory access of Noehring to include the classification and prioritization of Ganesan. The motivation for doing so is to provide bandwidth allocation on a per-system rather than per-interface basis (page 10, paragraph 127).

12. Referring to claims 13 and 23, Noehring teaches:

- s. Obscuring the portion of the data when the retrieved portion is non-secure data (Figure 5, 518).
- t. Deciphering the portion of the data when the retrieved portion is secure data (Figure 5, 546).
- u. Determining an integrity of the portion of data (pages 2-3, paragraph 38).

13. Referring to claims 14 and 24, Noehring teaches performing quality of service operations on the data in coordination with the performing of security operations (pages 2-3, paragraph 38).

14. Referring to claims 15, and 25, Noehring teaches logic configured to identify an information flow associated with the portion of data, to determine the priority of that

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portion of data, and to schedule transferring the operated on portion of the data from memory based on the priority information (page 5, paragraph 58).

15. Referring to claim 16, Noehring teaches:

v. Logic configured to decipher the portion of the data prior to identifying the

information flow when the retrieved portion is secure data (figure 5, 546, 550,

page 3, paragraph 38).

w. Logic configured to obscure the portion of the data after identifying the

information flow when the retrieved portion is non-secure data (Figure 5, 518,

520).

16. Referring to claim 20, Noehring teaches including error correcting code with the data transferred to or stored in the memory and detecting errors in the data retrieved or transferred from the memory based on the error correcting code included with the data (page 7, paragraph 79).

17. **Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noehring (2002/0188871) in view of Ganesan (2003/0069973), and further in view of Kocaman (2004/00305513).** Noehring in view of Ganesan discloses all the limitations of the parent claim. Noehring in view of Ganesan does not explicitly disclose having a SERDES circuit coupled between the DMU and the network. However, Kocaman discloses that it is known that network components include a serializer-deserializer to convert the serial stream of data into parallel and parallel into serial (page 1, paragraph 5). Noehring in view of Ganesan and Kocaman are analogous art

because they are from the same field of endeavor, network processing. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Noehring in view of Ganesan and Kocaman before him or her, to modify the system of Noehring in view of Ganesan to include the serializer-deserializer of Kocaman. The motivation for doing so would have been that it is well known in the art (page 1, paragraph 5).

18. Claims 8, 17 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noehring (2002/0188871) in view of Ganesan (2003/0069973), and further in view of Nozawa (5,235,641). Noehring in view of Ganesan discloses all the limitations of the parent claims. Noehring in view of Ganesan does not explicitly disclose compressing and decompressing data before and after encryption. However, Nozawa discloses:

- x. Compressing the data prior to encrypting the data (column 3, lines 29-32).
- y. Decompressing the data after decrypting the data (claims 11 and 12).

19. Noehring in view of Ganesan and Nozawa are analogous art because they are from the same field of endeavor, encrypted data storage and retrieval. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Noehring in view of Ganesan and Nozawa before him or her, to modify the process of Noehring in view of Ganesan to include the compression of Nozawa. The motivation for doing so would have been to not lose the redundancy of data in a large quantity of data (column 3, lines 26-38).

20. **Claims 10, 11, 18 and 19 are rejected under 35 USC 103 (a) as being obvious over Noehring (2002/0188871) in view of Ganesan (2003/0069973), and further in view of Trost (4,627,018).** Referring to claims 10 and 18, Noehring in view of Ganesan discloses all the limitations of the parent claim. Noehring in view of Ganesan does not appear to explicitly disclose grouping the memory requests together. However, Trost discloses grouping the memory requests together and not starting the second group before the first group is completed (column 2, lines 5-8). Noehring in view of Ganesan and Trost are analogous art because they are from the same field of endeavor of memory access. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Noehring in view of Ganesan and Trost before him or her, to modify Noehring in view of Ganesan to include grouping read and write requests, then completing one group before the other of Trost. The motivation for doing so would have been to eliminate the time gap between the groups of requests (column 1, lines 42-45).

21. Referring to claim 11, Noehring teaches including error correcting code with the data transferred to or stored in the memory and detecting errors in the data retrieved or transferred from the memory based on the error correcting code included with the data (page 7, paragraph 79).

22. Referring to claim 19, Noehring teaches receiving (reading) data packets from memory in predetermined byte sizes (page 3, paragraph 42).

(10) Response to Argument

Applicant's arguments filed with Appeal Brief on March 20, 2009 have been fully considered but they are not persuasive.

Noehring in view of Ganesan (claims 1, 2, 4-7, 9, 12 – 16, and 20 – 25)

With regards to claims 1, 12 and 22, applicant argues that Ganesan fails to teach discarding portions of data associated with a particular information flow based on the identified priority. However, Ganesan teaches classifying packets based on the type of packet they are, and then controlling the bandwidth by using a selective-drop algorithm that controls the incoming bandwidths of the traffic classes (page 11, paragraph 128). Ganesan further teaches that when a packet cannot be classified, there is an error, and the packet is dropped (page 9, paragraph 106). The packet is dropped based on the assigned priority since it cannot be classified.

Applicant argues that the dependent claims are allowable based on their dependencies from the independent claims. For the reasons the independent claim rejections are maintained, so are the dependent claims.

Noehring in view of Ganesan in view of Kocaman (claim 3)

Applicant argues that claim 3 is allowable based on its dependency from the independent claim 1. For the reasons stated above the rejections are maintained, and so are the dependent claim rejections.

Noehring in view of Ganesan in view of Nozawa (claims 8, 17, and 26)

Applicant argues that the dependent claims are allowable based on their dependencies from the independent claims. For the reasons the independent claim rejections are maintained, so are the dependent claims.

Noehring in view of Ganesan in view of Trost (claims 10, 11, 18, and 19)

Applicant argues that the dependent claims are allowable based on their dependencies from the independent claims. For the reasons the independent claim rejections are maintained, so are the dependent claims.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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